Section 3.2
AIR QUALITY

This section describes existing air quality conditions in the project area and describes potential impacts caused by construction and operation of the proposed project. It also identifies mitigation measures designed to mitigate those impacts. The analysis in this section is primarily based on information provided by the Applicant in Section 3.2 of the Application for Site Certification (ASC).

3.2.1 Affected Environment

3.2.1.1 Regional Climate

The project site is located in a semi-arid region of south-central Washington at the western edge of the Columbia Basin physiographic province, which includes the Kittitas Valley and the central plains area in the Columbia Basin. This large province occurs within the rain shadow of the Cascade mountain range, and is characterized by semi-arid conditions, as well as a large range of annual temperatures indicative of a continental climate. Annual precipitation throughout the Columbia Basin ranges from 7 to 15 inches.

Summer precipitation is rare and usually associated with thunderstorms. During July and August, it is not unusual for 4 to 6 weeks to pass without measurable rainfall. The last freezing temperature in the spring occurs during the latter half of May in the colder localities of the Columbia Basin. The first freezing temperature in the fall is usually recorded between mid-September and mid-October.

Ellensburg Temperature and Precipitation Statistics

The Ellensburg airport provides the longest-term data set with information recordings from 1940 to present (Western Region Climate Center 2004). The coldest average monthly temperatures at Ellensburg occur in January with a minimum of 15 ºF and a maximum of 32 ºF. The warmest average monthly temperatures in Ellensburg occur in July, when the minimum is 54 ºF and the maximum is 84 ºF.

The average total annual precipitation at Ellensburg is 8.9 inches. Ellensburg's average annual snowfall is 35.2 inches. It should be noted that the highest point in the project area (Whiskey Dick Mountain at an elevation of 3,873 feet) is more than 2,100 feet higher in elevation than the reporting station in Ellensburg. Therefore, the project area will experience slightly cooler temperatures than reported for the Ellensburg station.

Extreme Temperatures and Wind Gusts

Based on the Ellensburg weather data set, the maximum recorded temperature was 103 ºF and the minimum recorded temperature was –28 ºF. Extreme gust wind speeds have been measured and calculated for Ellensburg (Wantz and Sinclair 1981), which indicate that the 100-year expected peak gust is 73 mph. All facility equipment, specifically the turbines and towers, are designed to withstand wind loads and temperatures far in excess of these extremes as described more fully in Section 2.2.3, "Project Facilities."

Wind Patterns

The Wild Horse Wind Power Project (WHWPP) site is located on several well exposed ridgelines, the largest of which is known as Whiskey Dick Mountain at 3,873 feet elevation. The ridges range in elevation from 3,000 to 3,873 feet. They are downwind of Snoqualmie Pass, the lowest pass through the Washington Cascades. Strong westerly winds are channeled through Snoqualmie Pass. The most persistent winds occur in the spring and summer months when there is a strong temperature gradient between the cool Puget Sound area and the hot, dry Columbia plateau region. However, strong winds also occur in other months, associated with the passage of numerous cold fronts moving through the region. Four years of historical wind data at the project site are shown in a wind rose in Figure 3.2-1. Prevailing winds blow from the west through west-southwesterly directions. The highest wind speeds are from westerly directions and generally occur in the spring through summer months.

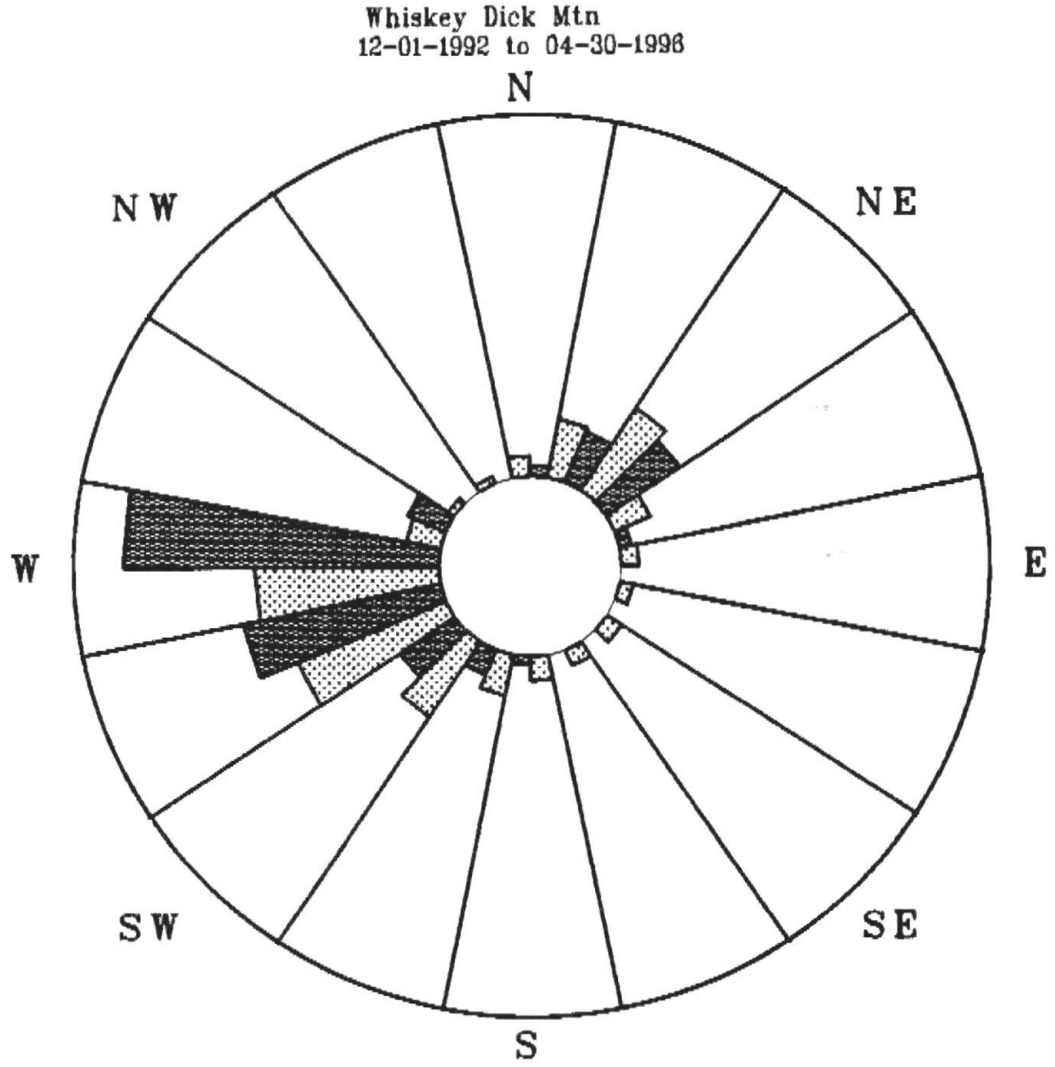
3.2.1.2 Air Quality Standards

Attainment Area Status

Ambient Air Quality Standards have been established by both the federal government (through the Environmental Protection Agency [EPA]) and the state government (through the Washington Department of Ecology [Ecology]). . EPA has established National Ambient Air Quality Standards (NAAQS) for criteria pollutants, including carbon monoxide, particulate less than 10 and 2.5 microns in diameter, ozone, sulfur dioxide, nitrogen oxides, and lead. Washington State has also similarly established Washington Ambient Air Quality Standards (WAAQS). Local Air Quality is monitored and evaluated against the NAAQS and WAAQS. If measured data indicates an area meets the standards, the area is considered an "Attainment Area", and if it does not, the area is considered a "Nonattainment Area." Air quality monitoring data has been collected from only one site in Kittitas County (a particulate monitor in Ellensburg), and that monitor has historically indicated ambient concentrations of particulate are well within the NAAQS limits. Based on the data from the Ellensburg monitor Kittitas County is classified as an "Attainment Area" for particulate matter and as an "Unclassified" area for all other pollutants. "Unclassified" means that ambient air quality monitoring data are not available.

Applicable Air Quality Regulations

EFSEC issues permits and authorizations for all sources under its jurisdiction. In general, if potential emissions from stationary sources exceed certain thresholds, approval from the appropriate permitting authority is required before beginning construction. The two most



= % Turbine Energy = % Time Inner Circle = 0 % Outer Circle = 40 %

Compass Direction		% Time	Mean Speed (MPH)
N	349 - 11	2.5	12.0
NNE	11 - 34	7.1	16.3
NE	34 - 56	11.9	16.4
ENE	56 - 79	4.6	10.7
E	79 - 101	2.1	7.7
ESE	101 - 124	1.5	7.9
SE	124 - 146	2.1	8.6
SSE	146 - 169	2.1	8.9
S	169 - 191	2.9	10.7
SSW	191 - 214	5.1	13.8
SW	214 - 236	11.1	14.4
WSW	236 - 259	19.2	18.9
W	259 - 281	21.9	22.6
WNW	281 - 304	4.2	18.3
NW	304 - 326	0.9	7.8
NNW	326 - 349	0.9	7.6

Source: Wind Ridge Power Partners, LLC 2004.

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Jones & Stokes

Figure 3.2-1
Wind Energy Rose
WILD HORSE WIND POWER PROJECT

common permits associated with industrial activity emitting regulated air pollutants are Notice of Construction (NOC) approvals and Prevention of Significant Deterioration (PSD) permits. The proposed project would not be required to go through this type of permitting process because wind turbines have no regulated air emissions during operation.

Notice of Construction/New Source Review

WAC Chapters 463-39 and 173-400 establish the requirements for review and issuance of NOC approvals for new sources of air emissions under EFSEC jurisdiction. A NOC is not required for the proposed project because there would be no permanent sources of regulated air emissions. No backup generation or spinning reserves would be required as part of the proposed project. The only air emissions associated with this project are from construction vehicles and equipment, and from operations and maintenance vehicles, which would comply with all applicable state and federal emissions standards and are not subject to air emissions permit requirements.

Prevention of Significant Deterioration

PSD regulations apply to proposed new or modified sources located in an attainment area that have the potential to emit criteria pollutants in excess of predetermined *de minimus* values (40 CFR Part 51). For new generation facilities, these values are 100 tons per year of criteria pollutants for 28 specific source categories, or 250 tons per year for sources not included in the 28 categories. For the proposed project, a PSD permit would not be required; the generation of electricity with wind turbines does not produce air emissions because no fuel is being burned to produce energy.

Construction Emissions

Mobile sources (such as construction equipment and maintenance pickups) are regulated separately under the federal Clean Air Act, including vehicle inspection and maintenance programs, and are not included when determining if a source must go through permitting.

However, Washington State regulates fugitive dust emissions as follows, with all authorizations to be obtained from EFSEC:

- WAC 173-400-040(2) Fallout, states that no person shall cause or permit the emission of particulate matter from any source to be deposited beyond the property under direct control of the owner or operator of the source in sufficient quantity to interfere unreasonably with the use and enjoyment of the property upon which the material is deposited.
- WAC 173-400-040(3a) Fugitive emissions, states that the owner or operator of any emissions unit engaging in materials handling, construction, demolition or any other operation which is a source of fugitive emissions shall take reasonable precautions to prevent the release of air contaminants from the operation.

- WAC 173-400-040(8a) Fugitive dust sources, states that the owner or operator of a source of fugitive dust shall take reasonable precautions to prevent fugitive dust from becoming airborne and shall maintain and operate the source to minimize emissions.
- WAC 173-400-035 states that for portable sources such as a rock crusher and batch plant, which locate temporarily at particular sites, the owner(s) or operator(s) shall be allowed to operate at the temporary location providing that the owner(s) or operator(s) notifies the Department of Ecology (Ecology) or the local air quality authority of intent to operate at the new location at least 30 days prior to starting the operation, and supplies sufficient information to enable Ecology or the local air quality authority to determine that the operation will comply with the emission standards for a new source, and will not cause a violation of applicable ambient air quality standards and, if in a nonattainment area, will not interfere with scheduled attainment of ambient standards. The permission to operate shall be for a limited period of time (one year or less) and Ecology or the local air quality authority may set specific conditions for operation during that period. A temporary source shall be required to comply with all applicable emission standards.

Air Quality Permits

No air quality permits are required for most aspects of the proposed project: general construction activity, vehicles and mobile equipment used for operation and maintenance, or the WTGs and support equipment that do not emit air pollutants. However, the construction operations will require two pieces of stationary, portable equipment that would require air permits: a portable rock crusher, and the portable concrete batch plant. The construction contractor will be required to submit a "Temporary Air Quality Permit Application for Rock Crushing" from Ecology for approval by EFSEC. The temporary permit issued by EFSEC will specify emission control requirements for the temporary equipment. The applicant has indicated that the rock crusher and the concrete batch plant would both use water sprays to control fugitive dust. Compliance with Ecology air quality regulations and standards will be ensured by implementing effective control measures and by complying with permit guidelines and statutory requirements addressing fugitive dust emissions.

3.2.1.3 Kittitas Valley Alternative

Like the WHWPP site, the Kittitas Valley alternative is located in the Kittitas Valley. It is approximately 21 miles west-northwest of the WHWPP site; therefore, climate and wind conditions for the Kittitas Valley alternative are similar to those described for the WHWPP above.

The two most prevalent sources of air pollution in the Kittitas Valley are fugitive dust and vehicle emissions, which are associated with agricultural activities, vehicle travel on dirt roads, construction, and other such activities that disturb soils and utilize combustion engines.

Existing land uses within the Kittitas Valley alternative area are primarily grazing, rangeland, and low-density residential development; therefore, sources of existing air pollutants in the project area are primarily vehicle emissions.

3.2.1.4 Desert Claim Alternative

The Desert Claim alternative is located in close proximity (approximately 1.6 miles east-southeast) to the Kittitas Valley alternative at its nearest point. Existing air quality conditions for the Desert Claim alternative site are expected to be similar to those for the WHWPP alternative, since these apply generally to Kittitas County.

With a sparse population and rural nature, existing sources of air pollution within the Desert Claim alternative site are primarily fugitive dust and vehicle emissions produced by agricultural activities, vehicular travel on dirt roads, construction, and other light industrial activities that disturb the soils and utilize combustion engines.

3.2.1.5 Springwood Ranch Alternative

The Springwood Ranch alternative is located approximately 7 miles southeast of the Kittitas Valley alternative site and 3 miles south of the Desert Claim alternative site. Existing air quality conditions for the Springwood Ranch alternative are expected to be similar to those described above for the WHWPP alternative, since these apply generally to Kittitas County. Existing levels of vehicle emissions may be higher in this area due to its close proximity to Interstate 90.

3.2.1.6 Swauk Valley Ranch Alternative

The Swauk Valley Ranch alternative is located approximately 6 miles southeast of the Kittitas Valley alternative site, 2 miles south of the Desert Claim alternative site, and is directly adjacent and to the northwest of the Springwood Ranch alternative site. Existing air quality conditions for the Swauk Valley Ranch alternative are expected to be similar to those for the Kittitas Valley alternative, since these apply generally to Kittitas County. Existing levels of vehicle emissions may be higher in this area due to its close proximity to Interstate 90.

3.2.2 Impacts of Proposed Action

This section describes potential direct impacts related to air quality for the WHWPP. Direct impacts would occur if air quality exceeded the NAAQS limits for any pollutant during project construction or operation. Table 3.2-1 summarizes potential air pollutant sources under the three project scenarios. Direct impacts could be associated with construction, operations and maintenance, or decommissioning of any of the proposed project elements, including the wind turbines and meteorological towers, new gravel access roads, additional power lines, O&M facility, and substations. Indirect impacts in the immediate vicinity are not anticipated, because the project is not expected to substantially induce regional growth to the extent that would result in significant changes to offsite air quality. Indirect air quality benefits associated with the avoidance of air emissions in the power generation process are discussed below under "Impacts of No Action Alternative."

Table 3.2-1. Summary of Potential Air Quality Impacts

Source	104 Turbines/3 MW	136 Turbines/1.5 MW (Most Likely Scenario)	158 Turbines/1 MW
Construction Impacts			
Equipment and vehicle exhaust emissions	See EIS Table 3.2-2 for list of construction equipment.	See EIS Table 3.2-2 for list of construction equipment.	See EIS Table 3.2-2 for list of construction equipment.
Fugitive dust emissions	No significant impact, fugitive dust generated by 289 total acres disturbed	No significant impact, fugitive dust generated by 356 total acres disturbed	No significant impact, fugitive dust generated by 401 total acres disturbed
Odors	Limited and negligible	Limited and negligible	Limited and negligible
Impacts during construction of substations and transmission facilities	Similar to Most Likely Scenario	Temporary, localized impacts caused by fugitive dust during construction	Similar to Most Likely Scenario
Fugitive dust and exhaust emissions	Similar to Most Likely Scenario.	Negligible impact caused by fugitive dust and tailpipe emissions from commute vehicles and onsite operational vehicles.	Similar to Most Likely Scenario.
Odors	None	None	None
Regulated air pollutants	Similar to Most Likely Scenario.	No impact; net benefit provided by avoidance of regulated criteria pollutants that would otherwise be generated by fossil fuel power plants	Similar to Most Likely Scenario.
Greenhouse gas emissions	Similar to Most Likely Scenario.	No impact, net benefit provided by avoidance of greenhouse gas emissions from other sources of power generation that would have otherwise been built or operated to produce an equivalent amount of energy	Similar to Most Likely Scenario.
Decommissioning Impacts			
Equipment and vehicle exhaust emissions; fugitive dust.	Similar to Most Likely Scenario.	Similar to those described for construction, however access roads may be left in place so impacts could be lower	Similar to Most Likely Scenario.

Source: Wind Ridge Power Partners LLC 2004

3.2.2.1 Construction Impacts

As listed in Table 3.2-1, the construction impacts would be similar for each of the project scenarios. Construction activities during installation of the 158-turbine/1 MW scenario could

potentially generate slightly greater levels of fugitive dust and vehicular emissions, since there would be more acres of temporary ground disturbance and more truck trips anticipated.

Construction Equipment

Table 3.2-2 lists the type of construction equipment likely to be used during construction. All construction equipment will be maintained according to manufacturer recommendations, and all equipment will comply with applicable emission limits.

Table 3.2-2. Construction Equipment On Site During Construction

Construction Phase	Estimated Average Number of Vehicles on Site	Duration (Approx. Months)	Approx. Hours/Day
Site Prep & Road Const.			
Bulldozer	4	4	12
Dump truck	12	4	12
Excavator	4	4	12
Front end loader	4	4	12
Motor grader	4	4	12
Vibratory Roller	3	4	12
Water Truck	8	4	12
Fuel Truck	1	4	12
Foundations			
Backhoe	4	4	12
Crane & Boom Trucks	3	4	12
Concrete pump truck	2	4	12
Concrete truck	8	4	12
Drill Rigs	3	4	12
Dump truck	6	4	12
Track hoe Excavator	5	4	12
Front end loader	3	4	12
Small loaders	3	4	12
Transportation Trucks - materials	6	4	12
Water Truck	1	4	12
Fuel Truck	1	4	12
Electrical			
Cable Spool Trucks	5	5	12
Concrete Trucks	3	5	12
Boom Truck	3	5	12

Construction Phase	Estimated Average Number of Vehicles on Site	Duration (Approx. Months)	Approx. Hours/Day
Fork Truck to Offload Spools	2	5	12
Man lift bucket	2	5	12
Rock trencher	2	5	12
Transportation Trucks - materials	8	5	12
Winch truck	3	5	12
Substation & Interconnect			
Backhoe	3	4	12
Bulldozer	2	4	12
Concrete Trucks	4	4	12
Drill Rig	2	4	12
Dump truck	4	4	12
Man lift bucket truck	2	4	12
Trencher	2	4	12
Winch truck	1	4	12
Excavator	2	4	12
Wind Turbine Assembly & Erection			
Boom truck	4	5	12
Forklift	4	5	12
Rough terrain crane	5	5	12
Transportation Trucks - materials	20	5	12
Truck mounted crane	5	5	12
Project Cleanup			
Dump truck	2	3	12
Front end loader	2	3	12
Motor grader	2	3	12
Transportation Trucks - materials/waste	3	3	12
Daily Construction Traffic			
Min. of 20 full size pickups, FedEx, UPS, and other delivery trucks, etc. daily	35	4	12

Source: Wind Ridge Power Partners LLC 2004

Fugitive Dust

Construction activities would produce fugitive dust from the following general operations:

- From construction-related traffic on unpaved site roads during the dry season.
- As a result of ground disturbance for road and foundation construction during the dry season. The length, width, and type of construction for haul roads are described in Section 2.2.3, "Project Facilities." The peak-daily earthmoving volume for roads and foundations is anticipated to be approximately 7,800 cubic yards.
- From on-site gravel quarries and WTG foundations resulting from blasting and excavation activities. Peak-daily production from on-site quarries is anticipated to be approximately 30,000 tons. Peak-daily excavation from WTG foundations is anticipated to be approximately 1,000 cubic yards of material.
- From the portable rock crusher and portable concrete batch plant operations. Peak-daily production from the portable rock crusher and concrete batch plant is anticipated to be approximately 30,000 tons and 700 cubic yards, respectively.
- From activities associated with gravel-pit reclamation.

In accordance with the various provisions of WAC 173-400-040 above, the project would employ reasonable precautions to prevent fugitive dust from being airborne and shall maintain and operate equipment in a manner that minimizes emissions. Such methods include good housekeeping procedures around the crusher and batch plant to prevent buildup of fine materials and dust suppression on roads and construction areas. Dust suppression will be accomplished through application of either water or a water-based, environmentally safe dust palliative such as lignin, in accordance with the Proposed Dust Abatement Policy developed by Kittitas County Public Works Department (this draft policy has not been formally adopted by the Board of County Commissioners). The use of a dust palliative such as lignin would provide the same level of control as road watering, but require substantially less water for dust suppression and therefore less traffic from water trucks to the construction site. The final decision regarding dust suppression techniques will be made by the construction contractor in consultation with EFSEC.

Dust suppression activities undertaken during construction will be resumed during rehabilitation activities at gravel quarries, batch plant and rock crusher locations.

Because of the strong prevailing winds at the project site and the large distances between the construction sites and the facility boundary, it is expected that ambient particulate concentrations at the facility boundary during construction would be well within allowable air quality limits.

Tailpipe Emissions

Construction of the project would cause tailpipe emissions from the following sources:

- Exhaust from the diesel construction equipment used for project site preparation, grading, excavation, and construction of onsite structures;
- Exhaust from water trucks used to control construction dust emissions;
- Exhaust from diesel trucks used to deliver equipment, concrete, fuel, water and construction supplies to the construction site;

- Exhaust from vehicles used to transport workers and materials to and from and around the construction site; and
- Exhaust from diesel-powered welding machines, electric generators, air compressors, etc.

These emissions would be similar in nature to those produced by any large construction project that involves heavy equipment and transportation of materials to a project site. Because of the strong prevailing winds at the project site and the large distances between the construction sites and the facility boundary, it is expected that ambient air pollutant concentrations at the facility boundary during construction would be well within allowable air quality limits.

Temporary Processing Equipment

Temporary equipment would include a portable concrete batch plant and a portable rock crusher, which would be in operation during road building and foundation construction phases, approximately 6 to 8 months in duration for approximately 10 to 12 hours per day, 6 to 7 days per week. Both the batch plant and rock crusher would utilize diesel-powered generators during operations. Water sprays would be used to control dust emissions.

Emissions controls for stationary processing equipment are anticipated to include cyclones, fabric filters, and/or wet spray systems. Dust control systems shall be in place and maintained in good operating condition during all periods of crusher and batch plant operation. A water mist will be applied as needed near all emission points along the crushing circuit to control dust. The crusher and batch plant may be shut down if the wind is strong enough to prevent best efforts to keep dust from leaving the pit area from being effective. Stockpiles shall be located to minimize exposure to wind. During cement transfer to the silo, dust emissions would be controlled by a conventional fabric filter (baghouse) supplied as standard equipment by the manufacturer.

Odor

Odor emissions from the project are limited to odors associated with exhaust from diesel equipment and vehicles. Given the strong prevailing winds at the project site and the fact that the nearest houses are located several miles from the project site, no odor impacts are anticipated.

3.2.2.2 Operation and Maintenance Impacts

As listed in Table 3.2-1, the operational impacts would be similar for each of the project scenarios.

Emissions

The WTGs and other stationary equipment used for operation of the project would produce no air emissions, as no fuel would be burned to produce energy. It is anticipated that only a few trucks are required to travel along site roads for operation and maintenance activities. Therefore, operation of the project would not have any negative impact on air quality.

Fugitive Dust Sources

Operation of the project would generate minor amounts of fugitive dust levels. Project-related traffic on gravel access roads would generate small amounts of additional fugitive dust. Operational traffic is expected to consist mainly of commute vehicles and pickup trucks traveling between the WTGs for inspection and maintenance. The gravel roads serving the site would be maintained to keep them in good condition, thereby minimizing dust emissions.

Odor

Operation of the project would create no odors, as no combustion is involved and no odor-producing materials are used in project operations.

Indirect Impacts of Project Action

The proposed wind power project would produce energy while generating only limited amounts of localized, temporary air emissions during construction activities. WTGs do not produce air emissions or greenhouse gas emissions because no fuel is burned to produce energy. Since fossil fuels are not consumed by the proposed project for energy production, greenhouse gas emissions incident to the extraction and transportation of coal, oil, or gas are also avoided.

However, the project, if constructed and operated, could displace emissions from other sources of power generation such as coal or natural gas-fired power plants that would otherwise have been built or operated to produce an equivalent amount of electricity. Table 3.2-3 below summarizes the potential reductions in annual emissions from a hypothetical 67 aMW natural gas fired combustion turbine power plant that would not be operated if the WHWPP were constructed.

Table 3.2-3 Annual Emissions from a 67 aMW Natural Gas Fired Combustion Turbine Power Plant

Constituent	Quantity (tons/year)
Nitrogen oxides	22
Carbon monoxide	20
Sulfur dioxide	1
Particulate matter	16
Carbon dioxide	220,000

Note: Estimated by scaling from the allowable emissions from the recently-permitted 1,300 MW Wallula Power Project (EFSEC 2002).

Although operation of the proposed wind turbines themselves would not produce emissions, the project could still contribute to the generation of greenhouse gas emissions taking into consideration its "total fuel cycle," which includes the processes of manufacturing and transporting project parts and equipment, as well as constructing the project. For example, fabrication and transport of the parts used to construct the project such as the wind turbine towers, generators, and nacelle, which typically occurs in other regions of the country or abroad in Europe, would generate CO_2 emissions. Some believe that the fabrication and transport process in itself could contribute to the global problem of greenhouse gas emissions. However,

according to the American Wind Energy Association, several studies have found that even when the total fuel cycle of a wind power project is considered, CO_2 emissions from WTGs are on the order of 1% of coal or 2% of natural gas per unit of electricity generated (AWEA 2002).

3.2.2.3 Decommissioning Impacts

Decommissioning of the WTGs and support equipment would use the same types of construction equipment and the same types of dust controls used to construct the system. Decommissioning operations would generate fugitive dust and tailpipe emissions similar to those generated during construction. Because of the strong prevailing winds at the project site and the large distances between the construction sites and the facility boundary, it is expected that ambient air pollutant concentrations at the facility boundary during decommissioning would be well within allowable air quality limits.

As listed in Table 3.2-1, the decommissioning impacts would be similar for each of the project scenarios.

3.2.3 Impacts of Alternatives

3.2.3.1 Impacts of Off-Site Alternatives

Kittitas Valley Alternative

Impacts of the Kittitas Valley alternative would be similar to those described for the WHWPP due to the similarities in construction, operations, and maintenance activities. Construction of the Kittitas Valley alternative would result in air pollution impacts generated by emissions from vehicle and equipment exhaust and fugitive dust particles from travel on paved and unpaved surfaces. Vehicle and equipment emissions would be temporary and limited to the immediate area surrounding the construction site. The magnitude of dust impacts would depend on the number of vehicles operated during construction and the distance over which transportation occurs. Dust emissions would also be associated with land clearing, ground excavation, and cut-and-fill operations. Project construction would produce limited odors from diesel equipment and vehicle exhaust; however, these impacts would occur over a short duration within the alternative site and would not result in adverse effects to regional air quality. With application of the standard control measures typically used in large construction projects, air quality impacts during construction would be insignificant.

Operation of the Kittitas Valley alternative would not result in significant air quality impacts, as it does not involve the combustion of fossil fuels to generate electricity. Project operations and maintenance activities would produce limited air pollutants related to vehicle emissions and fugitive dust. However, these impacts would be minimized through implementation of standard control measures and would not cause adverse effects to regional air quality.

Desert Claim Alternative

Impacts of the Desert Claim alternative would be similar to those described for the WHWPP and the Kittitas Valley alternative due to the similarities in construction, operations, and maintenance activities associated with the proposed projects.

Springwood Ranch Alternative

Impacts of the Springwood Ranch alternative, as described for the Desert Claim alternative, would be similar to those described for the WHWPP and Kittitas Valley alternatives due to the similarities in construction, operations, and maintenance activities associated with the proposed projects.

Swauk Valley Ranch Alternative

Impacts of the Swauk Valley Ranch alternative, as described for the Desert Claim and Springwood Ranch alternatives, would be similar to those described for the WHWPP and Kittitas Valley alternatives due to the similarities in construction, operations, and maintenance activities associated with the proposed projects.

3.2.3.2 Impacts of No Action Alternative

The No Action Alternative assumes that future development at the site would comply with existing zoning requirements for the project area, which is zoned Commercial Agriculture and Forest and Range. According to the County's zoning code, the Commercial Agriculture zone is dominated by farming, ranching, and rural lifestyles; permitted uses include residential, greenhouses and agricultural practices. The specific type, nature, and extent of future developments at the project site are unknown, and would depend primarily on county growth trends.

If the proposed project were not built, additional renewable and non-renewable energy facilities may have to be constructed. Construction related emission would be commensurate with the land area being disturbed by such projects. If the proposed project were not built, a base-load natural gas-fired turbine facility generating 67 aMW might replace the power that would have been produced by the proposed project. The estimated annual emissions from a hypothetical 67 aMW power plant would be as follows: 22 tons of nitrogen dioxide, 20 tons of CO, and 220,000 tons of carbon dioxide (greenhouse gas emissions).

Impacts related to decommission of such facilities would depend on the structures to be removed, and the land area being disturbed by decommissioning of such projects.

3.2.4 Mitigation Measures

The Applicant proposes the following mitigation measures for construction-related air emissions and dust:

- All vehicles used during construction will comply with applicable federal and state air quality regulations for tailpipe emissions;
- Operational measures such as limiting engine idling time and shutting down equipment when not in use will be implemented;
- Active dust suppression will be implemented on unpaved construction access roads, parking areas and staging areas, possibly using water-based dust suppression materials in compliance with state and local regulations;

- Housekeeping measures around batch plant and rock crushing facilities to prevent buildup of fine materials;
- Traffic speeds on unpaved access roads will be kept to 25 mph to minimize generation of dust;
- Carpooling among construction workers will be encouraged to minimize construction-related traffic and associated emissions;
- Disturbed areas will be replanted or graveled to reduce wind-blown dust; and
- Erosion control measures will be implemented to limit deposition of silt to roadways.

In addition to these mitigation measures, the following will be implemented:

- Cease construction during periods of high wind strong enough to generate visible dust plumes from process equipment and unpaved roads;

The air quality permit for the temporary rock crusher and the temporary concrete batch plant will require the use of emission control devices to reduce dust generated by these processes. Water sprays will be used on the rock crusher and the concrete batch plant dry loading operations, and a fabric filter will be used for the Portland cement silo.

No air quality mitigation is proposed for project operations as there would be no air or odor emissions generated by stationary sources. Dust abatement measures implemented during operation would be continued as appropriate.

3.2.5 Significant Unavoidable Adverse Impacts

Direct impacts from construction of the project would be minimized by ensuring that all construction equipment is in compliance with applicable emission limits and by implementation of BMPs to control fugitive dust. Direct impacts from operation and maintenance activities would be minimal because the project, once built, would not produce air emissions, the amount of traffic on roads in the project area would be minimal, and roads would be maintained in good condition to minimize dust emissions. Indirect impacts are not expected because the project is not expected to induce regional growth to the extent that offsite air quality would be significantly altered. For these reasons, there would be no significant unavoidable adverse impacts with regard to air quality.